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Two rare myxomycete species from the Iberian Peninsula

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Abstract — Two uncommon myxomycete species, *Diderma sauteri* and *Stemonitopsis microspora*, recently recorded in the Iberian Peninsula, are described, illustrated, and discussed.

Key words — *Amoebozoa*, *Physarales*, *Stemonitales*, taxonomy, distribution

Introduction

As a result of a fungal and myxomycete inventory of the 'Río Caselas' region, located in the Northwest of Spain, Pontevedra province (Requejo 2013; Requejo & Andrés Rodríguez 2013), two interesting taxa were obtained. After a detailed morphological study, these collections were identified as *Diderma sauteri* and *Stemonitopsis microspora,* two species that are rare in southwestern Europe and which are described and discussed here.

Materials & methods

The collection and study of the specimens was made following the usual methodology for myxomycetes (Martin & Alexopoulos 1969; Nannenga-Bremekamp 1991). Macroscopic characters were studied using a stereomicroscopic Nikon model SMZ745T. Microscopic observations were made using a Nikon E100 microscope. Samples were prepared in KOH (5–10%). For measurements and microscopic images of the structures we used the software ProgRes® CapturePro 2.7, associated with the digital camera Jenoptic CT3 (Jenoptik AG, Germany).

The studied collections are deposited in the personal herbarium of one of the authors (req-Fungi) with duplicates in Real Jardín Botánico, C.S.I.C. (MA-Fungi).

Taxonomy

Diderma sauteri (Rostaf.) T. Macbr., N. Amer. Slime-moulds:103.1899 PLATE 1·1–2

SPOROCARPS gregarious or scattered, sessile, globose to subglobose, sometimes pulvinate, with flattened areas by mutual pressure, up to 1 mm in diameter. SPOROTHECA pink, grey, pinkish-brown or brownish. HYPOTHALLUS undetectable. PERIDIUM double, the external layer, cartilaginous, thin, smooth, separate from the inner; inner layer membranous, grey or iridescent, with amorphous calcium carbonate granules of 1–3 µm diameter. COLUMELLA rudimentary, calcareous, often reduced to a reddish-brown basal thickening. CAPILLITIUM filamentous, limeless, smooth, colourless to violet, branched and few anastomosed. SPORES free, black in mass, dark violet-brown in transmitted light by LM, globose, (n = 62) (11.2–)11.8–15.0(–15.2) µm, spinulose.

SPECIMENS EXAMINED — **SPAIN**: **PONTEVEDRA**. Salceda de Caselas, A Laxe, Río Caselas, 29TNG3676, 90 m, on bryophytes, 10-I-2012, leg. Óscar Requejo (req-Fungi 423; MA-Fungi 86674).

COMMENTS — This collection fits well the *D. sauteri* descriptions of Poulain et al. (2011), Ing (1999), and Neubert et al. (1995), although we have recorded a slightly wider range of spore sizes. Our observations of abnormally large spores up to 21 µm diam. coincide with those of Martin & Alexopoulos (1969); these authors mentioned the possibility of such abnormalities when there is an anomalous sporocarp development, and therefore we place no taxonomic importance on such features.

Diderma sauteri is usually associated with bryophytes. The most similar species is *Diderma ochraceum* Hoffm., which has smaller spores and bright orange, red, or yellow sporothecas (Poulain et al. 2011). *Diderma subincarnatum* Kowalski shares with *D. sauteri* the pinkish colors of the sporotheca but the spores are slightly larger (13–16 µm diam) and usually grow in dead branches and leaves (Poulain et al. 2011).

This is the first confirmed record of *D. sauteri* in Spain. We know only a mention for Portugal in Torrend (1909). Neubert et al. (1995) cite *D. sauteri* for Spain although they do not refer to a collection. Although they give the location as "Extremadura" (Spain), this is probably just a reference to Torrend's record for "Estremadura" (Portugal).

Stemonitopsis microspora (Lister) Nann.-Bremek., Nederlandse Myxomyceten: 208. 1975 ["1974"] PLATE 1·3–4

SPOROCARPS in small groups, stipitate, 1.8–3.5 mm total height. SPOROTHECA cylindrical, subcylindrical or slightly conical with rounded apex, brown, 1.5–2.3 mm long. HYPOTHALLUS shared, brown to black-brown. PERIDIUM evanescent. STIPE 0.6–1.2 mm long, black, with a broadened base. COLUMELLA reaching the apex of the sporotheca, concolorous with the stalk. CAPILLITIUM tortuous,

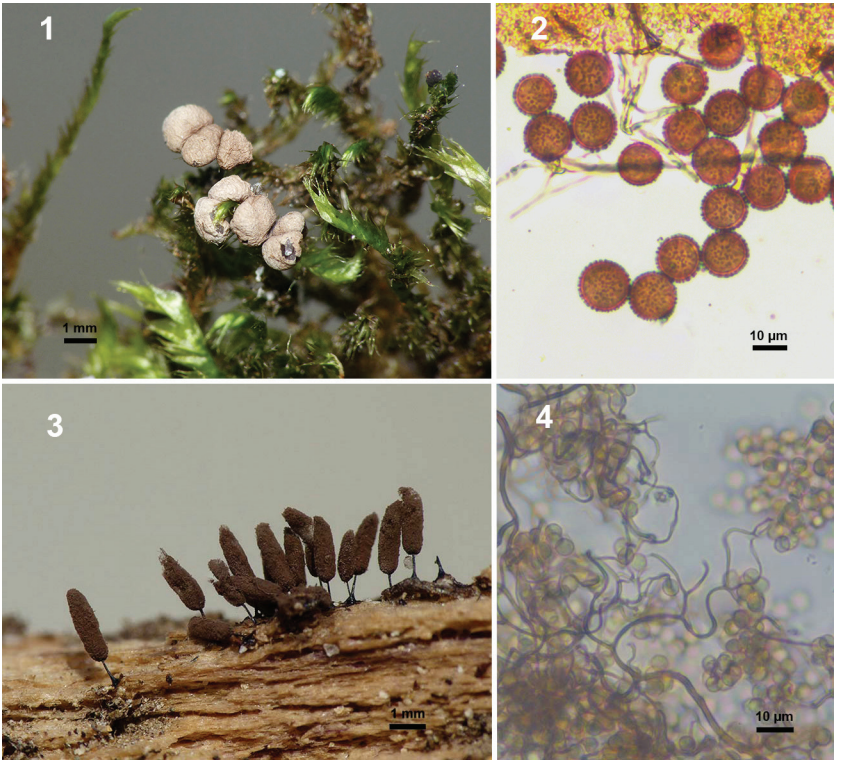

Plate 1. ***Diderma sauteri*** (MA-Fungi 86674). 1. Sporocarps; 2. Echinulate spores. ***Stemonitopsis microspora*** (req-Fungi 500): 3. Sporocarps; 4. Spores and capillitium.

becoming very entangled towards the outer part, branched and anastomosed, forming a fragmented peripheral net. Spores brown to reddish-brown in mass; hyaline, pale brown by LM, subglobose or slightly polygonal, (n = 59) (3.7–)3.9–5.1(–5.2) µm diam, reticulate.

Specimens examined — **SPAIN**: **Pontevedra**. Salceda de Caselas, A Picoña, Río Caselas, 29TNG3676, 66 m, on wood of *Pinus pinaster,* 4-III-2013, leg. Óscar Requejo (req-Fungi 500; MA-Fungi 86675).

Comments — The specimen fructified on *Pinus* wood, although *S. microspora* is often recorded in the literature as growing on leaves (Martin & Alexopoulos 1969; Poulain et al. 2011). All the morphological characters fit well with the description provided by Nannenga-Bremekamp (1975) for the species. The small spore size of *S. microspora* distinguishes it from other species such as *Stemonitopsis hyperopta* (Meyl.) Nann.-Bremek. (5–7 µm diam) and *Comatricha pulchella* (C. Bab.) Rostaf. (6.5–9 µm diam) (Martin & Alexopoulos 1969; Poulain et al. 2011).

According to the data provided by GBIF (2013) there is only one Iberian record of *S. microspora*, in Madrid from 1975. We have found no other bibliographic records of this species for the Iberian Peninsula. The other species of *Stemonitopsis* reported from the Iberian Peninsula are *S. aequalis* (Peck) Y. Yamam., *S. amoena* (Nann.-Bremek.) Nann.-Bremek., *S. hyperopta*, and *S. typhina* (F.H. Wigg.) Nann.-Bremek. (Lado 1993; Hernández-Crespo 2006).

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